

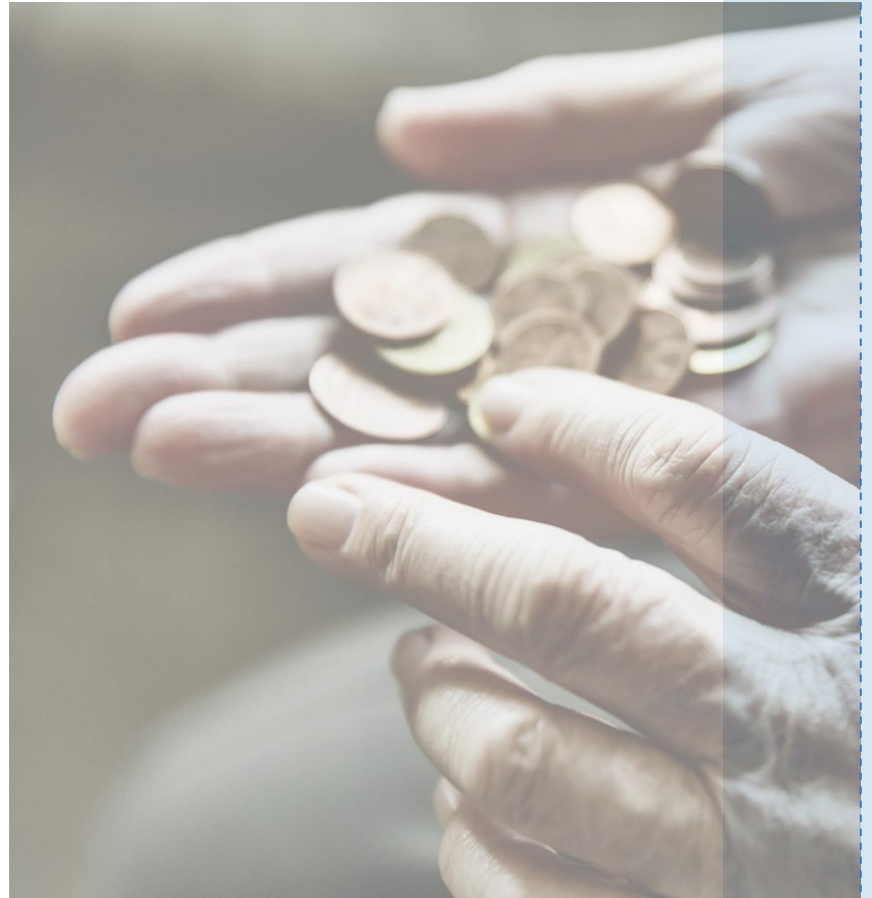
Consumption Smoothing, Saving, Credit and Insurance

Lecture 8-2
Saving behaviors

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Chayanee Chawanote

(adapted from Pascaline Dupas)



Shocks vs. consumption smoothing



Agriculture has high-frequency fluctuations: intra- and inter-annual variability



Most people are self-employed; health shocks can lead to loss of income



Income fluctuations are particularly problematic when income is low to start with

Risk mitigating and risk coping strategies

Fwd to lecture 8-4: risk

Timing	Income/Production	Consumption
ex ante: prior to realization of shock	Shared Tenancy Irrigation Investment Crop/Plot Diversification Occupational Diversification Low-risk technologies	Formal Insurance Saving Location Diversification: - marriage - migration
ex post: after realization of shock	Increase Labor Supply	Borrowing Selling Assets (dissaving) Transfers from social network

- Saving/Dissaving is something that one can do on one's own, so should be a way for households to smooth consumption in the face of uncertainty



Why not save?

- Only 22% of adults worldwide report having saved at a formal financial institution, and
 - 77% of adults living on less than \$2 a day report not having an account at a formal financial institution (Demirguc-Kunt and Klapper, 2012)
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- Why don't people save enough to deal with shocks or get out of debt traps?
 - Do people have difficulty saving?
 - If so, why?
 - Too close to subsistence?
 - Lack a safe place?
 - Gaining access to a savings account can make a difference for some people (Dupas & Robinson, 2013) but definitely not all.
 - Can't agree among household members on what to save for?
 - Lack of self-control?

Constraints to saving

SAVINGS BY AND FOR THE POOR: A RESEARCH REVIEW AND AGENDA
by Karlan et al. (2014)

- Transaction costs
 - Pecuniary costs (account opening fee, minimum balance requirements)
 - Non-pecuniary costs (non-monetary, distance/geographic access)
- Lack of trust and regulatory barriers
 - Low consumer trust and confidence
 - regulatory barriers
- Information and knowledge gaps (financial literacy)
- Social constraints
 - Intra-household vs. inter-household bargaining and sharing
- Behavioral biases
 - Biases in preferences (living for today, present-bias and under-saving)
 - Biases in expectation (over-optimism about future income)
 - Biases in price perceptions (underestimating compound interest)
 - Biases in problem-solving (inattention to savings)

Quasi-hyperbolic discounting

- What would you choose between
 - \$1000 today or \$2000 in 1 year?
 - What's about
 - \$1000 in 6 months vs. \$2000 in 18 months?
 - If you were patient for the 2nd choice, but impatient in the 1st, you are inconsistent !!
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- Logic: patient in the future, impatient now. Or, "I'll be good later, but for now I want to spend."
 - People have preferences over consumption today and consumption in the future

Quasi-hyperbolic discounting

- For a quasi-hyperbolic consumer, preferences are instead of the form:

$$u(c_1) + \beta[\delta u(c_2) + \delta^2 u(c_3) + \dots]$$

- So there is additional discount β . What does that do?
- Say that $\beta = 0.5$ and $\delta = 0.9$. Then, 1 unit tomorrow is worth only 0.45 today >> you want to consume more today and save less
- But notice another issue
 - The tradeoff between 6 months and 18 months from now is 0.9
 - But 6 months from now: the person values 1 unit the next day as only 0.45
- This is what time inconsistency means – the tradeoff between periods depends on whether it is now vs. 1 year, or 6 months vs. 18 months

TABLE 1
KEY STATISTICS FROM STUDIES EVALUATING SAVINGS IMPACT IN THE DEVELOPING WORLD

Study, Country	Treatment	Measurement Timeframe	Take-up of Savings Account (share of the entire treatment group)	Active Usage of Savings Account (share of the entire treatment group)	Increase in Savings Balance (% or level increase over the comparison group)	Crowd-Out of Savings	Increase in Outcomes (% increase over the comparison group)
Dupas and Robinson (2013a), Kenya	Reducing opening fees for a simple bank savings account	6 Months	87%	41% (2 or more transactions)	9.36 Ksh increase in daily average bank savings	No crowding-out	37% increase in daily private expenditures; 38–56% increase in average daily business investment
Prina (2013), Nepal	Reducing opening fees and reducing distance to transaction point for a simple bank savings account	1 Year	84%	80% (2 or more deposits)	25% increase in monetary assets	No crowding-out	20% increase in educational expenditures; 15% increase on fish and meat expenditures; Smaller reduction in weekly income when hit by a health shock
Cole <i>et al.</i> (2011), Indonesia	Varying subsidies to open simple bank savings accounts	2 Years	Low incentive: 3.5%; Medium incentive: 8.9%; High Incentive: 12.7%				
Dupas <i>et al.</i> (2012), Kenya	Reduce opening fees for a simple bank savings account	1 Year	62%	18% (2 or more deposits)			
Schaner (2013c), Kenya	Reduce issuing fee for an ATM debit card (reduces withdrawal fee by half)	6 Months	Savings account: 100% (by design); ATM card: >86%	22.7% (1 or more transactions)			
Schaner (2013b), Kenya	Varying interest rates and intra-household ownership of simple bank savings accounts	6 Months	100%	43% (1 or more transactions)			
Schaner (2013a), Kenya	Varying interest rates on simple bank savings accounts (long-run impacts)	6 Months; 3 Years	High-interest rate: 49.2%; Low-interest rate: 31.4%	High-interest rate: 14.7% (1 or more transactions over first 6 months); 11.7% (1 or more transactions 24–36 months after account opening)			\$15 in higher monthly income for individual accounts offered the high interest rate
Karlan and Zinman (2013), Philippines	Varying interest rates and intra-household ownership of commitment savings accounts	20 Months	23%	9% (1 or more deposits)			
Ashraf <i>et al.</i> (2006b), Philippines	Door-to-door deposit collection service	15 Months	28%	14.2% (1 or more deposits)	40% increase in savings stock		
Chin <i>et al.</i> (2011), U.S.–Mexico	Assistance to undocumented migrant workers to obtain an I.D. card required to open a bank savings account	5 Months	ID Card: 87%; Savings Account: 43%		9 percentage point increase in total savings as a share of income	No crowding-out	Those in the treatment group who lacked control over how remittances were spent increase their income by \$575 (14%)
Seshan and Yang (2013), Qatar–India	5 hour financial literacy workshop	1 Year			72.4% increase in migrant's savings		

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Ashraf <i>et al.</i> (2010), Philippines	Goal-based commitment savings account	1 Year; 2.5 Years	28%				0.14 SD increase on an index of decision-making power among married women; Among women with below-median decision-making power at baseline, increase in expenditure on female-oriented consumer durables by 1457 Ph pesos
Ashraf <i>et al.</i> (2011), U.S.–El Salvador	Savings accounts with varying degrees of control over remittances for El Salvadorian emigrants in the U.S.	6 Months	Recipient account: 22.9%; Joint account: 28.3%; Joint and migrant account: 39.6%		For participants who had demand for control of funds, 244% increase in total savings for the joint and migrant account treatment	No crowding- out	
Brune <i>et al.</i> (2013), Malawi	Commitment and ordinary savings accounts tied to tobacco crop sales	1.5 Years	Ordinary account: 18%; Commitment account and ordinary account: 21%	Ordinary account: 18%; Commitment account and ordinary account: 21%	Ordinary account: 573% increase in deposits in project accounts; Commitment account and ordinary account: 503% increase in deposits in project accounts		Among those offered the Commitment account and the ordinary account: 7.7% increase in land cultivation; 17.1% increase in agricultural inputs; 20.1% increase in agricultural output; 13.5% increase in household expenditures after the next harvest
Ashraf <i>et al.</i> (2006a), Philippines	Goal-based commitment savings account with early-withdrawal penalties	1 Year	28%	~14% (1 or more deposits)	82% increase in total savings balance	No crowding- out	
Dupas and Robinson (2013b), Kenya	Health-oriented informal savings devices with varying levels and types of commitment	1 Year		Safe Box: 71%; Lock Box: 66%; Health Pot: 72%; Health Savings Account: 97%			66–75% increase in preventative health investments for Safe Box Treatment; 128–138% increase in preventative health investments for Health Pot Treatment; 12 percentage point reduction in the likelihood of being unable to afford medical treatment (on a base of 31%) for HSA Treatment
Song (2013), China	Financial education (around explaining the principles of compound interest) related to investing in the government-subsidized pension system		Education (teach principles): 99%; Calculation (information-only): 98%		Education: 40% increase in pension contributions; Calculation: 19% increase in pension contributions		4.8% increase in estimated consumption each year after age 60 from Education treatment
Karlan <i>et al.</i> (2012), Philippines, Bolivia, and Peru	SMS and letter reminders to save				6% increase in total savings balance		

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